

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte RUDOLF HEINZ,
KLAUS-PETER SCHMOLL
and
FRIEDRICH BÖCKING

Appeal No. 2002-0563
Application No. 09/381,755

ON BRIEF

Before HAIRSTON, BARRETT, and LEVY, Administrative Patent Judges.
HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims
7 through 11.

The disclosed invention relates to the structure of a
piezoelectric actuator.

Claim 7 is the only independent claim on appeal, and it
reads as follows:

7. A piezoelectric actuator, comprising:

a plurality of plates formed from a piezoelectric material and having a polarization direction running perpendicularly to a plate plane, each of the plurality of plates being stacked one over another in a stack having a stacking direction with respect to the polarization direction;

a control voltage source including a first contact and a second contact;

a first group of outer electrodes electrically connected to the first contact;

a second group of outer electrodes electrically connected to the second contact, each one of the first group of outer electrodes and each one of the second group of outer electrodes being respectively attached to a different one of a plurality of side faces of the stack or piezoelectric plates; and

a plurality of internal electrodes, each one of the plurality of internal electrodes being arranged between the plurality of plates in the stacking direction and alternately contacting the first group of outer electrodes and the second group of outer electrodes according to an arrangement in which at least one of the plurality of internal electrodes is electrically connected to the first contact and in which at least one another of the plurality of internal electrodes that is next in the stacking direction is electrically connected to the second contact, the plurality of internal electrodes contacting the first group of outer electrodes and the second group of outer electrodes in a cyclic sequence.

The reference relied on by the examiner is:

Tomita et al. (Tomita)

4,752,712

Jun. 21, 1988

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Claims 7 through 11¹ stand rejected under 35 U.S.C. § 102(a) as being anticipated by Tomita.

Reference is made to the final rejection (paper number 7), the briefs (paper numbers 13 and 15) and the answer (paper number 14) for the respective positions of the appellants and the examiner.

OPINION

We have carefully considered the entire record before us, and we will reverse the anticipation rejection of claims 7 through 11.

Anticipation is only established when a single prior art reference discloses every limitation of the claimed invention, either explicitly or inherently. Glaxo Inc. v. Novopharm Ltd., 52 F.3d 1043, 1047, 34 USPQ2d 1565, 1567 (Fed. Cir.), cert. denied, 516 U.S. 3378 (1995). The examiner is of the opinion (final rejection, page 2) that Tomita discloses all of the limitations of the claims on appeal. Appellants argue (brief,

¹ Appellants argue (brief, page 8; reply brief, page 3) that it was improper to reject claim 9 since the statement of the rejection (final rejection, page 2) did not list this claim. Inasmuch as the first page of the final rejection put appellants on notice that all of the claims on appeal were rejected, we find that the omission of claim 9 on the second page of the final rejection was harmless error on the part of the examiner.

pages 4 and 5) that Tomita neither teaches nor would have suggested a first group of outer electrodes, and a second group of outer electrodes electrically connected to the first and second contacts, respectively. Appellants additionally argue (reply brief, pages 2 and 3) that Tomita does not have electrodes within the piezoelectric plate 1, and that Tomita teaches away from the claimed polarization of the plurality of plates. We disagree with both of appellants' arguments in the reply brief. Although the disclosure (Figure 1) shows electrodes that may be described as "within" the piezoelectric plate, none of the claims on appeal limit the electrodes to such a location. With respect to the polarization of the plates, we find that the claimed polarization will occur in the plurality of plates disclosed by Tomita after the application of the high voltage to the laminate stack of plates (column 3, lines 54 through 65). On the other hand, we agree with appellants' argument in the brief. When all of the projections on each of the metal plates 3 are electrically connected together in Tomita, only two electrodes are formed (column 3, lines 22 through 28). One of the two electrodes is connected to the positive terminal of the power source, and the other of the two electrodes is connected to the negative terminal of the power source (column 3, lines 28 through 37). Thus, the

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anticipation rejection of claims 7 through 11 is reversed because Tomita does not disclose either a "first group of outer electrodes" connected to the positive terminal or a "second group of outer electrodes" connected to the negative terminal as claimed.

DECISION

The decision of the examiner rejecting claims 7 through 11 under 35 U.S.C. § 102(a) is reversed.

REVERSED

KENNETH W. HAIRSTON)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
LEE E. BARRETT)	APPEALS AND
Administrative Patent Judge)	INTERFERENCES
)	
)	
STUART S. LEVY)	
Administrative Patent Judge)	

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